

Application No.: 10/787,349
Avago Docket No.: 10031004-1
Page 4 of 9

THE CLAIMS

The following listing of claims replaces all prior versions and listings of claims in the above-referenced application:

- 1 1. (Currently amended) A device, comprising:
2 a growth surface;
3 a growth mask on the growth surface, the growth mask defining an elongate
4 growth window;
5 an optical waveguide core mesa located in the growth window and having a
6 trapezoidal cross-sectional shape;
7 a sublayer formed on a surface of the optical waveguide core mesa that
8 opposes the growth surface; and
9 a cladding layer covering the sublayer and sidewalls of the optical waveguide
10 core mesa and extending over at least part of the growth mask, the cladding layer
11 comprising a plane major surface that is substantially parallel to the growth surface
12 and that extends over at least a part of the growth mask on each side of the growth
13 window; and
14 an electrode formed on the plane major surface of the cladding layer.
- 1 2. (Original) The device of claim 1, in which:
2 the growth surface has a [100] crystalline orientation; and
3 the optical waveguide core mesa comprises sidewalls having a [111]
4 crystalline orientation.
- 1 3. (Original) The device of claim 2, in which the growth mask
2 comprises opposed edges aligned parallel to the [011] crystalline direction of the
3 growth surface.
- 1 4. (Original) The device of claim 1, in which the optical waveguide
2 core mesa is homogeneous in structure and has a greater refractive index than the
3 cladding layer.

Application No.: 10/787,349
Avago Docket No.: 10031004-1
Page 5 of 9

1 5. (Original) The device of claim 1, in which: the device is an
2 optoelectronic device; and the optical waveguide core mesa comprises a quantum well
3 structure.

1 6. (Original) The device of claim 5, in which the quantum well
2 structure comprises quantum well layers comprising aluminum, gallium, indium and
3 arsenic.

1 7. (Original) The device of claim 5, in which the quantum well
2 structure comprises quantum well layers comprising gallium, indium, arsenic and
3 phosphorus.

1 8. (Original) The device of claim 5, in which the optical waveguide
2 core additionally comprises a separate confinement heterostructure in which the
3 quantum well structure is located.

1 9. (Original) The device of claim 5, in which the optical waveguide
2 core mesa comprises materials having a greater refractive index than the cladding
3 layer.

1 10. (Original) The device of claim 1, in which: the cladding layer is a
2 first cladding layer; the device additionally comprises a second cladding layer; and the
3 growth surface is a surface of the second cladding layer.

1 11. (Original) The device of claim 1, in which the growth mask and
2 the optical waveguide core mesa are similar in thickness.

1 12.-22. (Canceled)